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June 1, 2011

Kristen McKeever, RFP Coordinator
State of Tennessee
Department of Education
6th Floor, Andrew Johnson Tower
710 James Robertson Parkway
Nashville, TN 37243-0375

RE: RFP 33150-02211

Ms. McKeever,

It is our pleasure to submit this response to the referenced RFP for the P-12 LDS – Early Warning Data System.

Thank you for the opportunity to respond to this solicitation.

Sincerely,

Marty Reed, President
R & A Solutions, Inc.,
dba RANDA Solutions

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QUALIFICATIONS EVIDENCE GUIDE

The Proposer must address all items detailed below and provide, in sequence, the information and documentation as required (referenced with the associated item references). The Proposer must also detail the proposal page number for each item in the appropriate space below, and use this guide to cover the Qualifications Evidence section of the proposal (as its table of contents).

Prior to State evaluation of Qualifications Evidence, the RFP Coordinator will review each proposal for compliance with all RFP requirements, including but not limited to:

- The proposal must be delivered to the State no later than the Proposal Deadline.
- The Qualifications Evidence and the Cost Proposal must be packaged separately as required.
- The Qualifications Evidence must NOT contain cost or pricing information of any type.
- The proposal must NOT contain any qualification, limitation, or other restrictions.

The Proposal Evaluation Team will, then, review the Qualifications Evidence to determine if the mandatory requirement items are addressed as required and that it documents that the Proposer meets each mandatory qualification and experience requirement and is otherwise, at least, minimally acceptable as a contractor for the subject services.

PROPOSER LEGAL ENTITY NAME:		R & A Solutions, Inc dba RANDA Solutions
Proposal Page # (Proposer completes)	**Item Ref.**	**QUALIFICATIONS EVIDENCE**
40	**6.2.1.**	Detail the name, e-mail address, mailing address, telephone number, and facsimile number of the person the State should contact regarding the proposal.
41-42	**6.2.2.**	Provide the RFP Attachment 6.1., *Proposal Statement of Certifications and Assurances* completed and signed by an individual empowered to bind the Proposer to the provisions of this RFP and any resulting contract. The document must be signed without exception or qualification.
43	**6.2.3.**	Provide a statement, based upon reasonable inquiry, of whether the Proposer or any individual who shall perform work under the contract has a possible conflict of interest (*e.g.*, employment by the State of Tennessee) and, if so, the nature of that conflict. *Any questions of conflict of interest shall be solely within the discretion of the State, and the State reserves the right to reject any proposal or cancel any award.*
44	**6.2.4.**	Provide a statement of whether the Proposer or, to the Proposer's knowledge, any of the Proposer's employees, agents, independent contractors, or subcontractors, proposed to provide work on a contract pursuant to this RFP, have been convicted of, pled guilty to, or pled *nolo contendere* to any felony. If so, include an explanation providing relevant details. *Any issues relating to such a matter shall be solely within the discretion of the State, and the State reserves the right to reject any proposal or cancel any award.*
45	**6.2.5.**	Provide a statement of whether there is any material, pending litigation against the Proposer that the Proposer should reasonably believe could adversely affect its ability to meet contract requirements pursuant to this RFP or is likely to have a material adverse effect on the Proposer's financial condition. If such exists, list each separately, explain the relevant details, and attach the opinion of counsel addressing whether and to what extent it would impair the Proposer's performance in a contract pursuant to this RFP. *Any issues relating to such a matter shall be solely within the discretion of the State, and the State reserves the right to reject any proposal or cancel any award.* *All persons, agencies, firms, or other entities that provide legal opinions regarding the Proposer must be properly licensed to render such opinions. The State may require the Proposer to submit proof of such licensure detailing the state of licensure and licensure number for each person or entity that renders such opinions.*
46	**6.2.6.**	Provide evidence that the Proposer is a Microsoft Certified Partner.
4-28	**6.2.7**	Provide evidence that the Proposer has previously implemented their data model in a K-12 Local Education Agency or State Education Agency.

Supporting the TLDS 360 Vision

As a current TDOE technology services partner, RANDA understands how our response to RFP #33150-02211 will be considered within the broader scope of the TLDS 360 project as articulated in Tennessee's Race to the Top Appendix C-1-1. To "push the frontier in collection and utilization of P20 data" requires a solid understanding of Tennessee education data not only in terms of a future data model design, but more importantly, as a functional collection of complex, interdependent data silos, each with their own operational imperatives and each containing vital data concerning Tennessee's students.

RANDA's work with TDOE positions us to scale up the existing K-12 data model we already support in collaboration with the Department of Assessment, Evaluation, and Research. Leveraging the current data model as a foundation, and applying RANDA's extensive knowledge and understanding of TDOE data, we can implement a Tennessee Early Warning Data System and its foundational LDS data model and business logic more quickly and effectively than any other vendor.

Through our current TDOE contract:

- RANDA manages a State-wide username and password list for teachers, principals, and administrators
- RANDA manages the Teacher/Student Claiming (TSC) system which aligns students with their individual teachers and classes
- RANDA collects and aligns assessment scores and other data with the proper district, school, and teacher
- RANDA applications feed student assessment data into the TVAAS database
- RANDA provides TDOE with real-time reporting using active data for the State to use for management and audit purposes

We can utilize the strength and experience of these existing data processing capabilities in tandem with our extensive knowledge of TDOE data structures to build a data model-backed EWDS to the exact specifications requested in the RFP and in First to the Top documentation. Where reuse is impossible we can leverage our current data systems to re-implement parallel functionality and achieve the State's desired results.

First to the Top documents indicate TDOE officials have been "working with the Dell Foundation and a group of states, with leadership from Texas, to share best practices for developing early warning data systems for their teachers." The Dell Foundation's Canonical Data Model (DFCDM) represents a useful body of knowledge regarding commonly exchanged education data. Through our extensive education data modeling experience, much of which is specific to Tennessee, we're aware of and have referenced the DFCDM, as well as other education data standards like SIF, NEDM and CDS as we've implemented client-tailored data models similar to the one Tennessee has requested.

The DFCDM defines 15 major domains to reference and organize overlapping views of education data. RANDA has already implemented Tennessee-specific data structures that parallel 11 of the model's 15 major domains. The DFCDM also defines 12 major interchange and exchange schemas (according to the R2 prototype DCD in Texas). RANDA has

implemented data exchange constructs paralleling each of the 12 data interface scenarios. For five of these scenarios our models match 60% or more of the DFCDM data fields. We mention this comparison as a means of demonstrating RANDA's commitment to data standards when those standards represent the best implementation model for the State.

RANDA has implemented and continually updates and maintains a Tennessee-specific K-12 data model of remarkable complexity. The national education landscape inspired by RTTT initiatives provides ample learning opportunities through the efforts of other states and organizations which can inform future approaches to augment standards-neutral K-12, P-12, and P-20 LDS expansion upon the RANDA-developed base model.

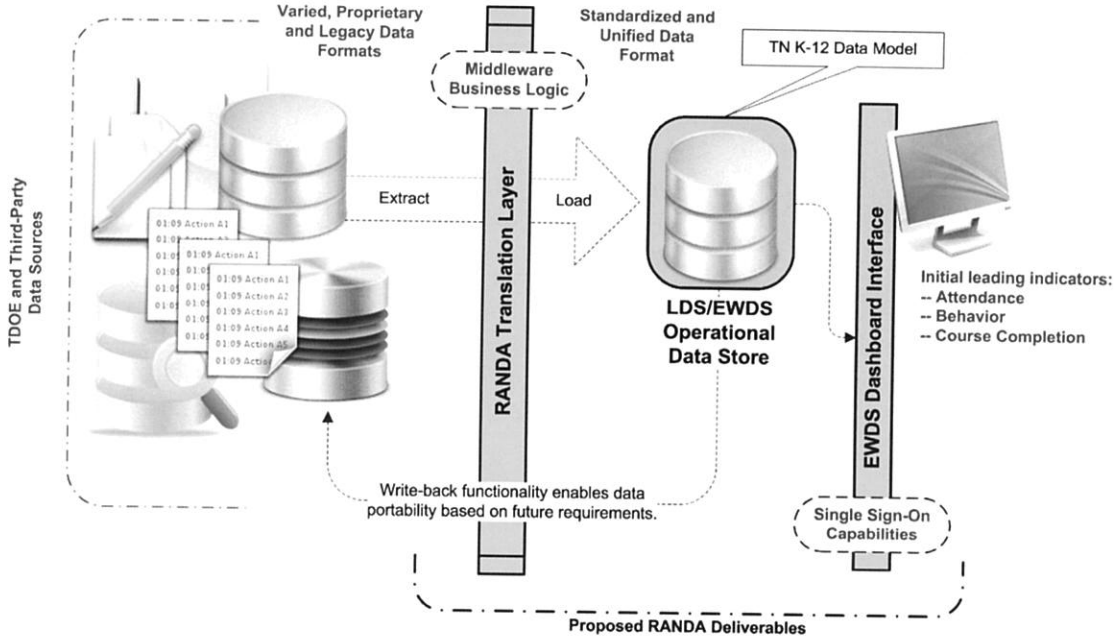
To enable that effort we propose a solution called the RANDA Translation Layer, a substantial body of middleware business logic that facilitates the structured translation of one data model to another. As an example, any flat file export, database extract, or direct data feed from a legacy TDOE system can be consumed by the RANDA Translation Layer and re-exported in a standard format such as DFCDM. By enabling its future development Tennessee will ensure the State never risks facing the data obsolescence and compatibility issues that will accompany a commitment to any other proprietary data model.

RANDA already serves as the primary data feed provider for TVAAS. With RANDA, TDOE can enhance data extract, transfer and load procedures, realize a full-scale Tennessee-specific K-12 data model, support the Phase 1 deployment of a successful EWDS dashboard system, and provide a strong foundation to support future TLDS 360 development.

Thank you for the opportunity to bid on this contract.

Proposed RANDA Technology Deliverables

The following sections describe our proposed technology deliverables relative to the diagram below.



Section Contents

- **Tennessee K-12 Data Model**
- **RANDA Translation Layer**
- **Early Warning Data System (EWDS)**
- **Technical System Architecture**

Tennessee K-12 Data Model

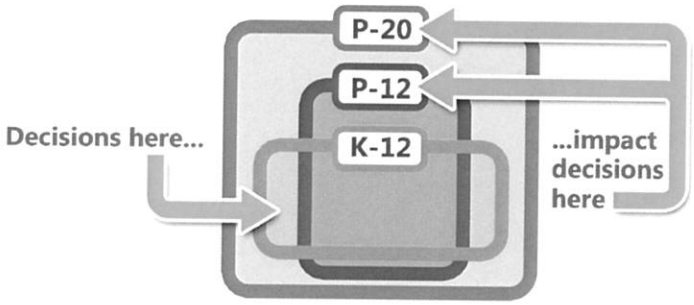
6.2.7: Provide evidence that the Proposer has previously implemented their data model in a K-12 Local Education Agency or State Education Agency.

In this section we discuss our approach to base and Tennessee-specific K-12 education data models in terms of RANDA's currently implemented solutions.

RANDA as a Vendor and Partner

Tennessee's RTTT vision is to aggregate Pre-K, K-12, postsecondary, and workforce information into a complete P-20 data system. RFP #33150-02211 seeks to build the foundations of this effort within the K-12 data scope. As a current provider of key TDOE K-12 functionality, we understand that the K-12 scope isn't isolated, and that the decisions made in this phase will impact broader data sharing and governance scenarios.

Decisions relative to one data scope can cascade with unpredictable results, making collaboration paramount during data system design and implementation.



The RTTT application refers to "a collaborative model of governance." In essence, no partner should step to the table and make decisions that will result in new, yet isolated data models and access protocols. We encourage a thorough evaluation of our collaboration (see *Project Management*) and documentation (see *End User Technical Support* and *Training*) practices, which we've included in this proposal.

As a demonstration of our collaboration abilities, SAS has applauded RANDA's work as we've partnered with them to deliver TVAAS data. The following excerpt of a letter sent by SAS's Manager of EVAAS Analytical Development, Dr. John White, enthusiastically endorses RANDA's data management expertise.

> *Since 2008, SAS has received data from RANDA that is necessary to provide TVAAS teacher value-added reports for the State of Tennessee. During this time, SAS has found RANDA to be both professional and prompt in its approach.*
>
> *More specifically, RANDA provides linkages of students to teachers in the tested subjects, and the quality of its work has helped both the Tennessee Department of Education and the SAS® EVAAS® team. Since RANDA's involvement in this*

> *process, more students have been linked to teachers. In our conversations with the Tennessee Department of Education and RANDA, we have been impressed with the technical competence of the RANDA team and we are looking forward to working with RANDA to streamline teachers' verification of their students.*
>
> *Additionally, RANDA's work ensures that SAS can complete its value-added analyses as soon as possible. It is critical to provide reliable TVAAS value-added results to teachers and administrators in a timely fashion, and RANDA's approach supports these efforts. These linkages require coordination across all systems and many different administrators, and this is no simple task.*
>
> *In summary, our interaction with RANDA reflects a commitment to quality and a timely process, and we welcome the opportunity to interact further with this team.*

Leveraging Existing Systems for Immediate Value

Tennessee's RTTT application describes the inherent challenges of LDS data unification in terms of "multiple heterogeneous, autonomous, distributed data sources." We understand the skills required to work in this space because we often face a similar starting point when implementing scenario-specific education data systems. For example, in our current role as a technical services provider, we aggregate a variety of disparate data from databases, flat files, data feeds, manual input, and other sources. Such aggregation is required in order to create useful data models specific to single agencies and operational units. The TLDS vision implements the same strategy on a larger scale.

The RFP asks for an existing data model with the scope and depth to be expanded to support extensive K-12 (and larger) data integration goals. To build, implement, and support such a model, Tennessee needs a partner capable of managing:

- Successful data import that respects integrity constraints
- Operational storage that supports robust data management
- Business logic that efficiently delivers extraction, cleansing, and loading functionality

With RANDA, Tennessee will start with an extensive existing data model that has been deployed, operated and refined across major TDOE data systems. That's important because Tennessee's LDS vision extends far outside the scope of K-12 data aggregation. Building on a foundation that has already proven successful for TDOE greatly reduces implementation risk. RANDA proposes expanding upon the existing data model that currently supports the Department of Evaluation, Assessment and Research's assessment data systems. This "head-start" approach will benefit the project immediately and during future TLDS rollout phases.

Existing data scope: During the TDOE technical services contract RANDA has implemented assessment data model standards supporting an extensive array of staff, student, school, LEA and other data domains. Our data model already supports over 125 million active data records and longitudinal assessment data going back more than a decade.

Strategic Data Model Expansion

The data model requested by this RFP must be robust enough to serve as the foundation for Tennessee's K-12 LDS EWDS and flexible enough to adjust to data and policy definitions and governance as they are amended and enhanced during P-20 TLDS implementation. To achieve these goals, we propose a two-pronged approach:

(1) Utilize RANDA's existing TDOE data model (developed with the Department of Evaluation, Research and Assessment) to its fullest extent.
(2) Implement extensions of that data model commensurate with established P-12 data model standards, such as the DFCDM. The DFCDM provides a proven reference model to guide P-12 data model expansion which will allow RANDA and TDOE to capitalize on known solutions, and to leverage extensible methods and models while we solve problems specific to Tennessee.

RANDA has already implemented commensurate Tennessee-specific data structures matching over 90% of the data model entities comprising the DFCDM Assessment Metadata and Student Assessment Interchanges. We estimate we have implemented data models commensurate with greater than 60% of the remaining schemas. These combined efforts represent a substantial head start.

Our proposed solution builds upon these contributions from the Dell Foundation's work in Texas. The DFCDM:

- Implements 12 standards for "missing" data interchange scenarios which will help us extend the data interchange schemas we've designed and implemented for TDOE.
- Provides a third-party reference model we will consult as we design systems and databases and build the scalable data stores that underpin the LDS EWDS solution.
- Aligns structure and semantics that can be referenced and applied to Tennessee-specific challenges.
- Shares education information and reuse best practices enabling us to bypass extensive reinvention during the Design stage of the project.

Data Model and Requirements Correlations

This section addresses the following Pro Forma requirements:

- *A.5.a.(1) The Contractor shall provide a K-12 data model for implementation, at the state level, capable of accommodating 136 Local Education Agencies (LEAs), 1900+ schools, 4000+ principals and administrators, 70,000+ teachers and 1,000,000+ students in Tennessee's K-12 public schools.*

RANDA data structures and processing functionality already accommodate almost all of the LEAs, schools, administrators, teachers and students in Tennessee. That means we can invest our time making forward-moving improvements without having to first build competence with Tennessee's existing systems and models. Required data model aspects listed in the RFP represent no significant departure from data models already implemented by RANDA for Tennessee in support of our current contract. The RANDA Translation Layer we discuss offers significant functional advances in this space.

The following specific correlations exist between current TDOE/RANDA data structures and the RFP's stated requirements:

- RANDA's calendar data model already supports state-wide assessment calendar functions with various levels of abstraction and complexity. We have recently enhanced the calendar data model to support extensive and granular date and time-based functions for our Teacher and Principal evaluation data systems. We can support multiple calendars per organizational entity (i.e. State, LEA, School).
- We have demonstrated effective demographic data management and modeling throughout the assessment data systems where district, school, student and staff demographic data interact seamlessly.
- The assignment model that underpins our teacher and principal evaluation systems parallels staff and class assignment modeling, as does the core functionality and data model that enables the TSC assessment system.
- Scheduling data will be handled via an extension of the calendar data model already discussed with the ability to manage multiple, varied schedules.
- Enrollment, attendance, disciplinary and other student-level data points will be implemented via extensions to the existing data model, informed by standards-based approaches like the DFCDM. (RANDA also has experience with SIF interfaces which may prove useful in this context.)
- Various metadata types such as codes, identifiers, classifications, indicators, and flags are substantially similar to data fields and types we handle in the current TDOE K-12 assessment data model.

Data Management Best Practices

RANDA will design data taxonomy, structure, and documentation components in accordance with TDOE functional requirements, and accepted standards for LDS interoperability, metadata, taxonomies, and data dictionary definitions. RANDA will properly implement integrity controls and governance rules in accordance with all functional and regulatory requirements.

We understand data import and management techniques must not only validate data upon import, but also effectively audit previously imported data in order to seek, report on, and correct operating errors in the field. We will apply the same successful data audit techniques and forensic compliance monitoring that we used to increase demographic data accuracy from 84% to 96% within the first two years of our assessment system implementation.

Data unification and source resolution relies heavily on accumulated knowledge and business rules that must be leveraged repeatedly and over time. RANDA has built substantial libraries of middleware data conversion logic. This unified codebase comprises the RANDA Translation Layer.

Data Model Updates

All data model updates will be deployed as part of our standard production schedule as detailed under *Project Management* and subject to TDOE written approval of the code release.

RANDA Translation Layer

> *Key issues for resolving heterogeneity are acquisition of appropriate metadata and discerning relationships among constructs of different database schemas. Management of this* ***knowledge*** *in a modular and efficient way is crucial for building an interoperable database system.*

Tennessee Race to the Top — Appendix C11
(emphasis added)

A data model provides a reference point or way of thinking about and exchanging data. Education data systems employ many different data standards. Often a standard applies to a single software package, or more broadly requires the overhead burden of implementing a cumbersome definition topology that over-solves current problems and introduces future negative impacts. Artfully splitting the difference between these varied conditions becomes the job of the data system provider.

The usefulness of data systems is greatly enhanced if they can "talk" to one another effectively. If the data is accessible in a format that allows a third layer of presentation logic to display and make sense of it — without extensive translation — then efficiency and utility is dramatically improved. Ideally an LDS implementation would involve only systems that can already talk to one another, and present their data in a standard format. In reality the picture gets muddied by legacy systems, limited proprietary formats, data standards that weren't designed for sharing, and a host of other implementation challenges.

We can demonstrate this phenomenon directly by illustrating our own experience implementing the TDOE assessment data systems.

Figure 1 (turn forward two pages) demonstrates the TDOE/RANDA K-12 data model as it exists in order to implement the assessment data management systems that underpin TVAAS data feeds. We have added emphasis and callouts to demonstrate specific data domains of importance to the assessment system that are also specifically mentioned in the current RFP requirements:

- **Full scope:** State level
- **Data scope:** District level, School level, Staff level and Student level.

The data model in Figure 1 already exists, and it already supports the RFP's required K-12 data scope. That's important, but what Figure 1 does not demonstrate is how we actually *use* it to implement TDOE functional requirements. The extensive business logic required to put this data model to work and achieve real-world results is the abstract codebase we call the RANDA Translation Layer. Its primary purpose is to integrate and make useful a variety of external data sources, organize them into standardized domains, and translate all the inbound data formats into one consistent, functional outbound data structure.

To fully demonstrate the huge difference the RANDA Translation Layer makes to the assessment data system, we created Figure 2. The same RFP-specific data domains are referenced again: State level, District level, School level, Staff level and Student level. The data model from Figure 1 still appears, but its nodes are barely perceptible as orange boxes

scattered throughout the diagram. That's because in this diagram we've added the full layer of functional and conceptual logic, dependencies, and data connections necessary to fully enable the assessment system. These blocks of logic and connections are colored in blue. In other words, the blue area on Figure 2 is a visual representation of the current real-world value added by the RANDA Translation Layer when it is applied on top of the K-12 assessment data model.

At its core this proposal emphasizes Figure 2's blue layer. By way of reference, Figure 1 is the RFP's "Base K-12 Data Model." Figure 2, however, is what makes that data model effectively the "TN K-12 Data Model." Developing and expanding Figure 2's blue layer is the crux of our proposed LDS-supporting data solution.

Tennessee has committed to developing an extensive body of knowledge around exactly how to integrate and make functional its extensive data sources relative to assessment management. The RANDA Translation Layer represents a manifestation of that knowledge, backed by a team of experienced education technology experts who have already earned the trust of TDOE and its vendor partners. Any vendor can present you with a data model that resembles Figure 1. No other vendor can present you with a TDOE-specific body of knowledge that begins to resemble Figure 2.

The head start provided by RANDA can help TDOE deliver the extensive expansion efforts necessary to realize the TLDS 360 vision more effectively than any other technology partner.

FIGURE 1

TDOE / RANDA
K-12 Assessment Data Model

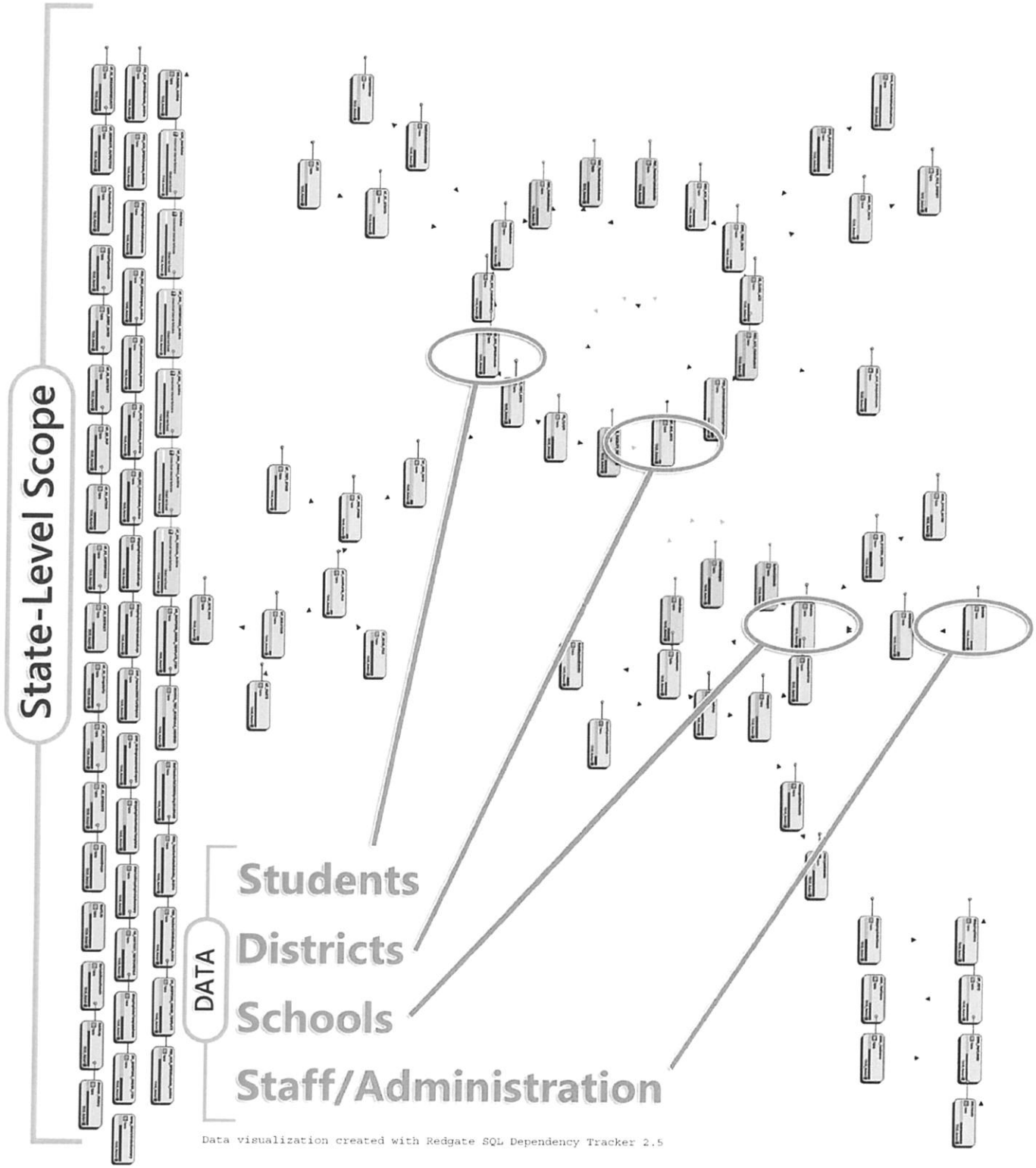
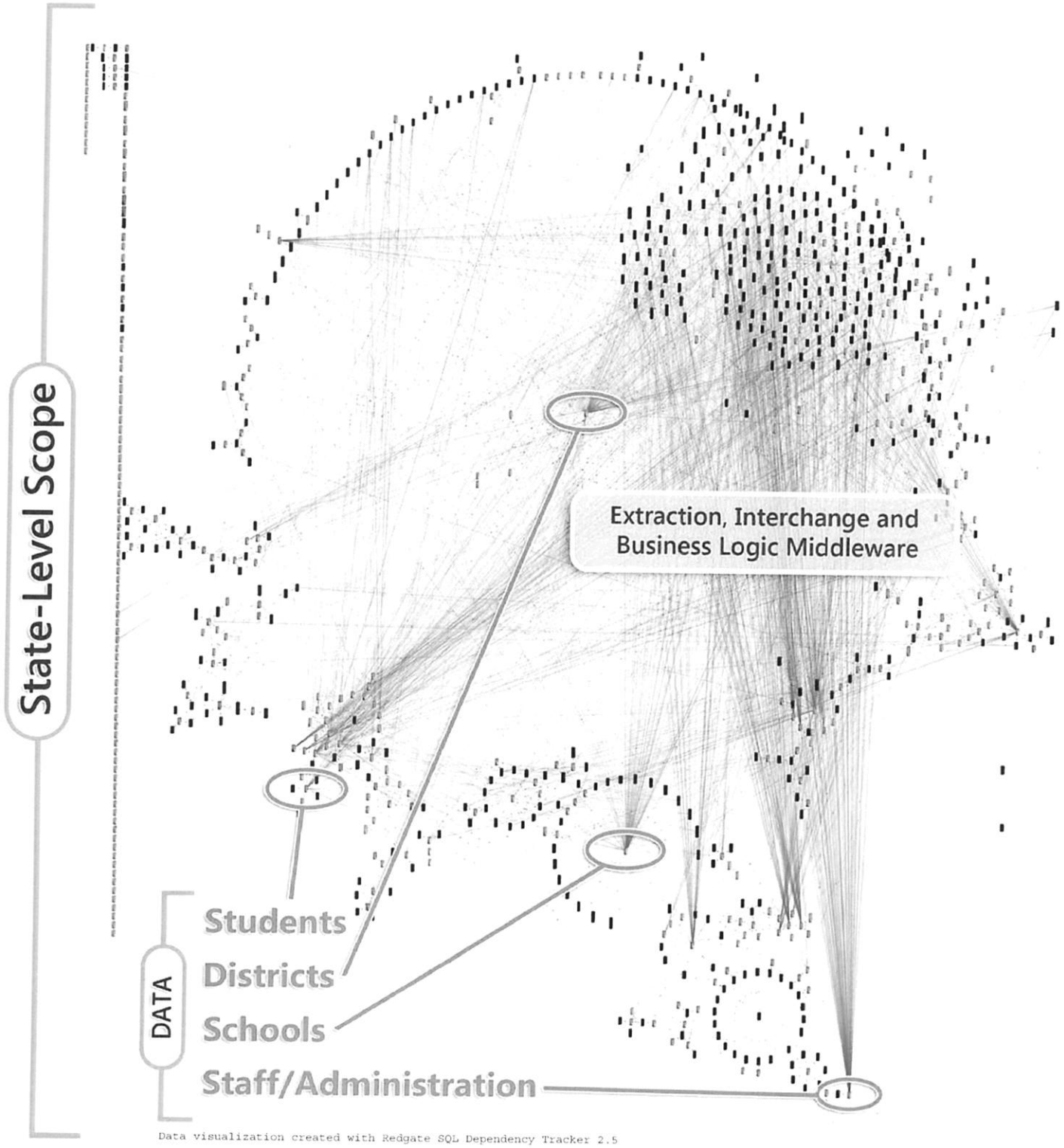


FIGURE 2

TDOE / RANDA
K-12 Assessment Data Model
+
RANDA Translation Layer



Early Warning Data System (EWDS)

This section supports the following Pro Forma contract requirements:

- *A.2.: The Contractor shall provide a P-12 longitudinal data system (LDS) Early Warning Data System (EWDS)...*

Forward-Looking and Adaptive

> *TLDS architecture will be an outcome in and of itself, designed to be forward-looking and adaptive to new data sources and collaborative opportunities with other information systems.*

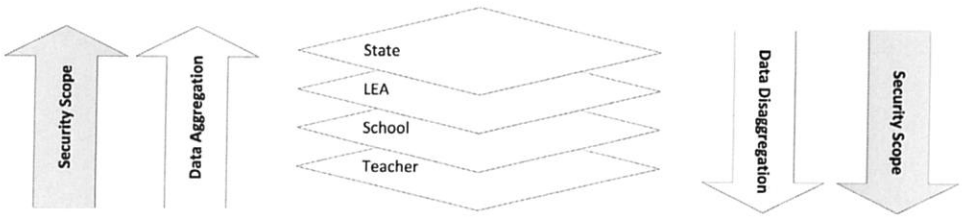
Tennessee RTTT Application Appendix C-1-1

Where the TN K-12 data model and RANDA Translation Layer set beneficial groundwork, the EWDS provides a tangible, useful front-end component. Based on TDOE requirements, the EWDS will:

- Provide principals and teachers with automated alerts calling attention to scenarios statistically likely to negatively impact student performance
- Trigger appropriate automated warnings for academic indicators in order to assess accumulating risk
- Feature RTTT Phase 1 indicators for attendance, behavior, and course completion and expand to other indicators over time
- Offer management interfaces allowing TDOE administrators to tune the dashboard alert reporting thresholds, reduce false positives over time, and increase the use of effective intervention

Depending on the role of the active user (see *Security & Compliance*), the tool will provide aggregate level-appropriate feedback to the State, LEAs, and Schools. Based on TDOE business processes, each tiered level of accountability can support increased attention as the level of severity (i.e. chance of academic failure) increases. The system will give subjective risk measures significantly more objective relevance with the use of rich, multidimensional data, experienced through user-friendly dashboard interfaces. In the future, each additional dimension of data will increase business intelligence and organizational learning opportunities.

EWDS Data Views Change Relative to User Roles



As Tennessee considers the strategic ramifications of constructing a "forward-looking and adaptive" LDS data system, RANDA will remain mindful of Tennessee's RTTT commitments.

For example, a "TLDS architecture [that] refers to the entire framework supporting integration, storage, and management of student data" requires TDOE's vendor partners to efficiently deliver results across the functional and objective scope of the RFP with absolute clarity relative to the State's TLDS 360 vision. Our proposed EWDS will contribute to overall LDS project success because RANDA considers the architecture, functions and design of our systems within the broader context of TDOE goals and commitments.

RTTT Phase 1 efforts like the EWDS must adapt quickly to the introduction of TDOE-sponsored indicators and the future inclusion of outside agency indicators derived from data sharing agreements. For that reason the EWDS must lean heavily on the TN K-12 data model and RANDA Translation Layer specifications already discussed in previous sections. Doing so guarantees future compatibility, even if additional middleware translation logic is required, since that logic will be properly abstracted from the user-facing presentation layer. That means as requirements change, the system will adapt. The RANDA Translation Layer guarantees data incompatibility will never prevent LDS enhancements or the rollout of additional student performance-focused technologies.

RANDA's Dashboarding Best Practices

We will use the following best practices to inform our development of the EWDS dashboards.

- **Role-based access:** Specific and granular role-based access (see *Security & Compliance*) should drive dashboard design at all levels such that within those roles a given dashboard and reporting structure always looks and feels customized to the user (i.e. the user doesn't encounter "grayed out" functions or "access denied" alerts).
- **Aggregation and disaggregation:** Aggregated data should always allow the ability to drill down and disaggregate that data across multiple data model levels (i.e. State to LEA to school to individual student) subject only to approved security constraints.
- **Summary data interfaces:** Summary data presentations and reports should provide user-friendly interfaces available and understandable via "at a glance" views.
- **Alert systems:** Warnings, alerts, and system messages should be written in clear language and should articulate the current condition, and the actions needed to alleviate that condition. Alerts that do not meet those standards should be redesigned or retired.
- **User experience:** User feedback mechanisms and analytics should be used to learn from real user behavior and make adjustments to help the users do their jobs more effectively (i.e. "don't get in their way").

Dashboards and Metrics

This section addresses the following Pro Forma contract requirements:

- *A.5.g.i-iv: Dashboards and metrics...(each item below highlights the specific requirements in italics)*

i. The *ability to create dashboards for all security role levels* is discussed in detail under the *Active Data Reporting Capabilities* and *Security and Compliance* sections below.

ii. Dashboards will *provide a summary of all students by high risk, low risk, and performing at*

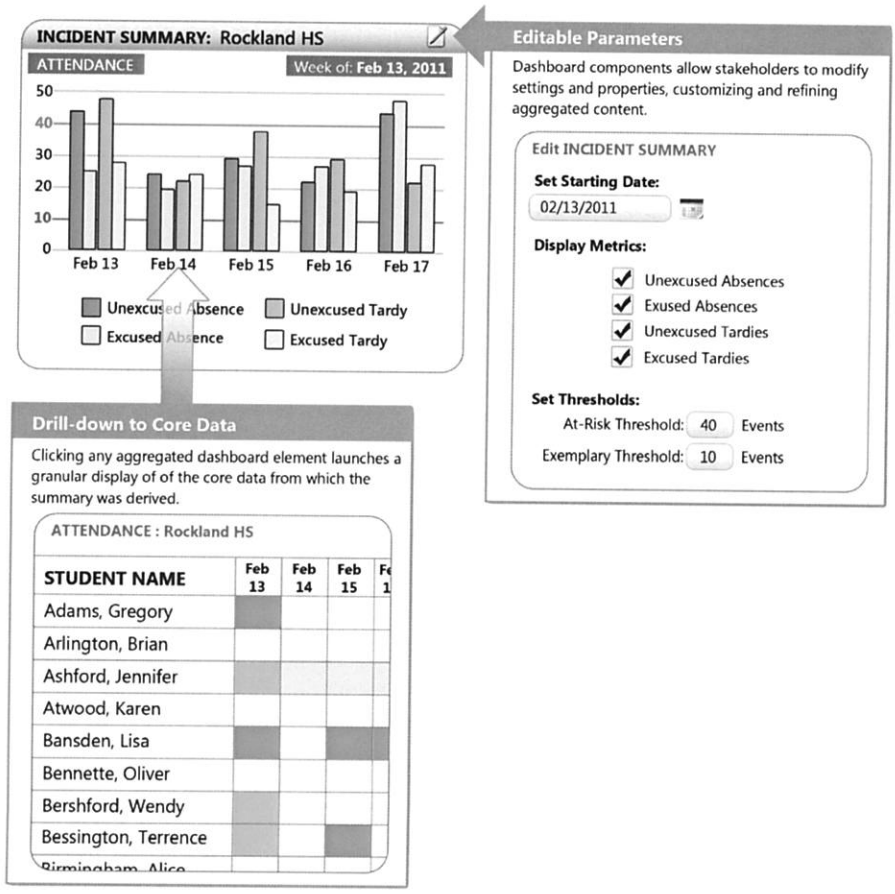
good levels as shown in the screen design suggested below. (All designs are always subject to TDOE approval throughout the the project life cycle; we discuss this methodology in detail under *Project Management*.)

iii. The *ability to drill down on any category and display a list of students in that category* is mentioned under our best practices listed above. This functionality will be included in our proposed EWDS solution.

iv. The *ability to drill down on a selected student and display details about that student* is understood as a requirement based on the same assumptions.

v. The *ability to display warnings using attendance, disciplinary, and grade data* is mentioned under the narrative and best practices listed above. This functionality will be included in our proposed EWDS solution.

Aggregated and Disaggregated Attendance Data Views (Example)



Installation and Configuration Documentation

This section addresses the following Pro Forma requirements:

- *A.5.h.: Provide installation and configuration documentation*

All RANDA data system solutions include extensive documentation covering end-user scope through hands-on technical administration. Documentation release schedules parallel software release schedules in order to provide immediately relevant updates. We will deliver documentation in any standard electronic format based on TDOE specifications.

Active Data Reporting Capabilities

This section addresses the following requirements:

- *A.6.a.(1).i.: Tennessee K-12 Data Model and Reporting; Design Phase; Gather detailed requirements and determine data sources for mapping to data model*
- *A.6.a.(1).ii: Tennessee K-12 Data Model and Reporting; Design Phase; Define indicators and thresholds for analysis and reporting*

Active Data Strategy

RANDA leverages active data reporting, display and interaction as core components of our technical solutions. Our systems can maintain benchmarks over time and present data snapshots without interrupting or locking workflow processes. This functionality supports unprecedented educator oversight and allows for higher quality data-driven decisions. The RANDA active data approach allow states and districts to maintain a central data collection system, which can generate required reports, forms, and dashboard views in real time. This means that data views, alerts, and warnings relative to attendance, behavior, or course completion thresholds are always based on the most current data available.

When we implement system requirements we decouple presentation and format (how the reports and data views look) from tools and workflows (how reports and data views get populated). This approach allows us to facilitate successful data collection, access, and analysis regardless of presentation and format.

Active data design best practices:

- Honor specific requirements and look for the simplest way to achieve them
- Whenever possible re-imagine the process by asking, "What should this look like?"
- Reuse data from another part of the process when it will save the end-user time and effort

Active Data Functionality

RANDA education data systems provide immediate, relevant, and actionable data in a wide range of formats to support broad organizational priorities. Our proposed dashboard and reporting functionality updates reports and data views immediately whenever new data has been introduced. **Users will get up-to-the-minute accuracy each time they visit the EWDS.**

We ensure data precision by providing parameter selection tools which allow administrators to define the scope and inflection points for each report or data view. For instance, a threshold warning for attendance may be set trigger at less than 80%, but a principal may want to generate a report on students with attendance rates below 70%. Our system allows for these type of ad hoc reports. Similarly, filtering options allow teachers and administrators to eliminate data clutter and focus on their specific reports and views. For example, a counselor who specializes in behavior problems may only want to see behavior data and could therefore filter out attendance and course completion indicators in her data view, allowing for a customized dashboard that suits her particular scope of accountability.

EWDS reports and data views will be prescribed via State-level controls. Different reports and views will be generated at different permission levels based on these controls, which gives the State oversight regarding how data is consumed and interpreted during periods of change management.

Current and Accurate

Active data reporting enables qualitative improvements in real world processes. When reports accurately reflect current environments in the classrooms, they allow for decisive action based upon relevant, timely data. This type of reporting will allow the EWDS to be used for its primary purpose, individual student intervention, and also for relevant analysis of trends, such as above or below average attendance at a particular school or individual classroom. As the number of indicators grows, our manual and automated data filters will reduce interface and reporting view clutter allowing administrators and teachers to focus on the data that matters most.

RANDA will work with the State to define data indicators and thresholds for analysis and reporting as part of the EWDS development process. Our Agile Development process allows for flexibility in modifying those indicators and thresholds in the future based on information gained from analysis of the data or new legislative mandates. Management tools built into the dashboard interface will allow authorized users at specified levels to change the thresholds relative to business rules and security considerations. Regularly automated LDS data updates will allow for longitudinal cohort studies and periodically scheduled analysis of current student data to identify trends and improve intervention strategies.

Reporting Solutions Previously Constructed for TDOE

The problem: A historical bias exists in the education space that constrains reporting to static PDFs that only change based on defined intervals, such as semesters or school years. The end-user typically lacks the ability to manipulate these reports, or to correct erroneous source information.

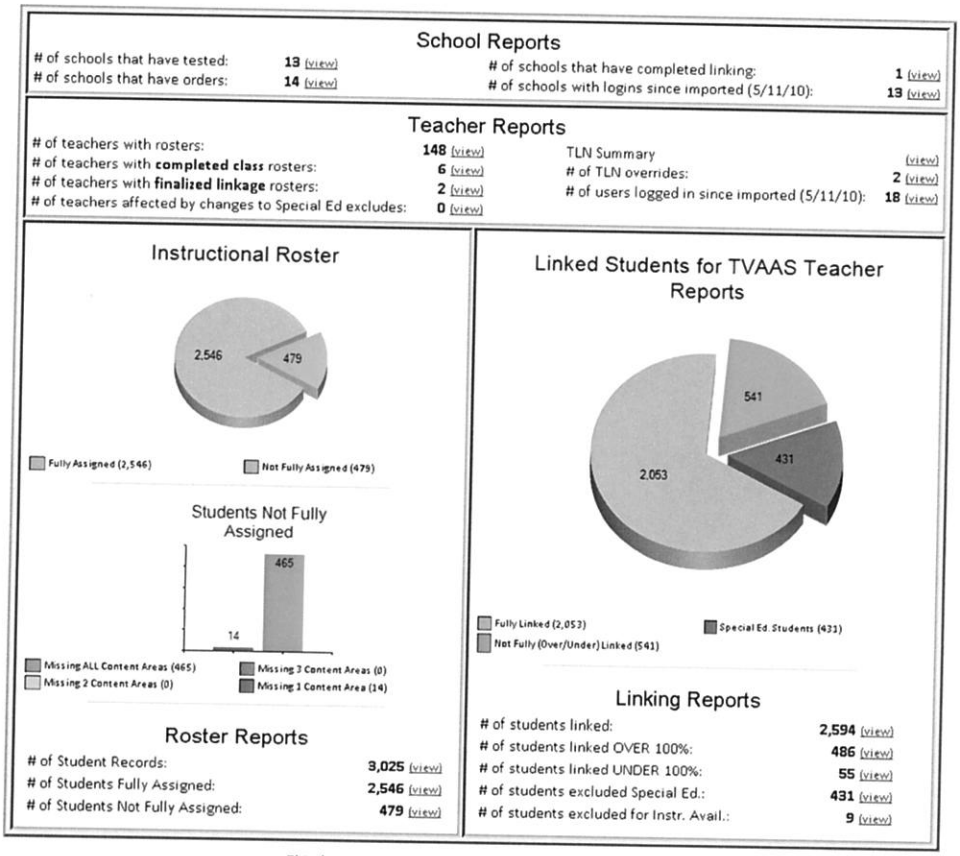
The solution: RANDA engineers, in conjunction with TDOE staff, designed a different type of report that interacts with the user and constructs itself over time using inputs taken from throughout system workflows. Ultimately the end-user can access automatically generated exports in useful formats that tell the full story of the data.

We have already put this strategy to work for TDOE and have included summaries of three examples below.

Case Study: Teacher/Student Claiming (TSC)

RANDA recently implemented TDOE's new Teacher/Student Claiming process which includes clean, visually appealing reports like the example below. This traditional reporting format caps and summarizes an active data process that aggregates and validates data from several supporting processes and workflows.

TSC Reporting Example

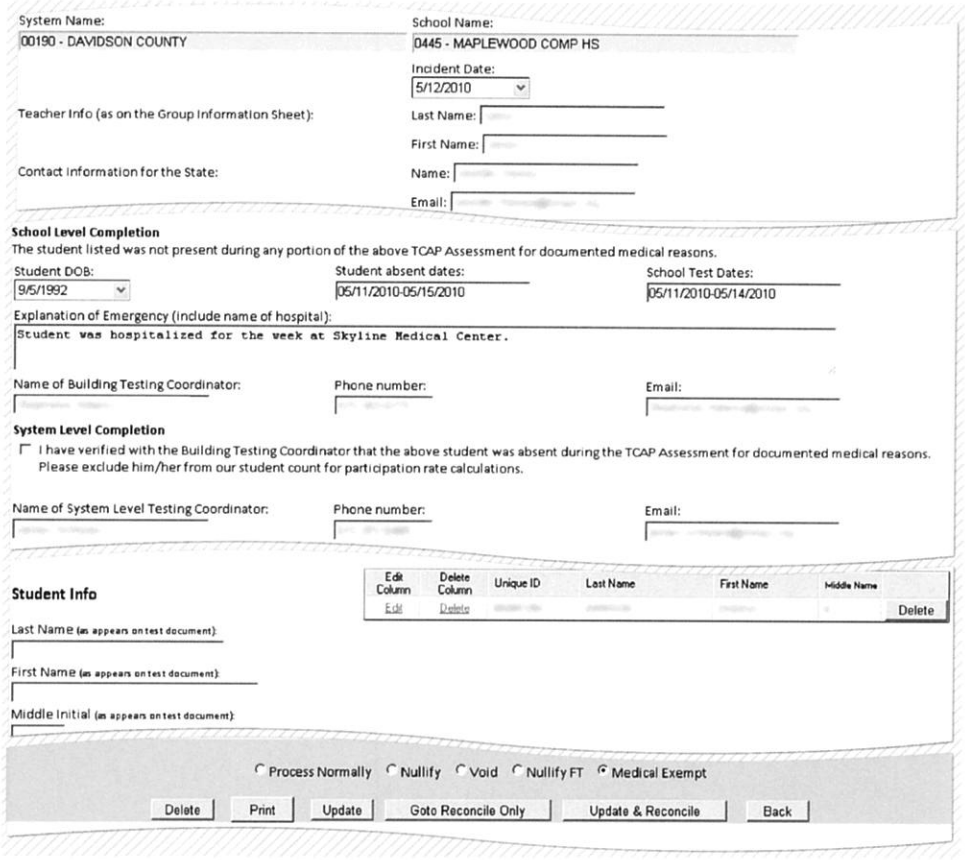


This data was compiled at 4/17/11 12:10:15 PM (central)

Case Study: Reports of Irregularity (RI)

TDOE's Reports of Irregularity application features simplifications that start with the end-user interface and reach through State required reporting. Former application approaches favored a system that emulated paper forms dependent upon time-consuming duplicate data entry. Our analysis and redesign showed how data collected during assessment management already included most of the fields required for official documentation. Our redesigned data entry screens import existing information from related systems, ask the end-user to validate that information, and require manual completion of only three text fields before the application automatically generates and submits compliant reports to the State for review.

Reports of Irregularity Active Data Example



Order Entry

Prior to RANDA's order entry system redesign, orders from districts output a limited report which the document vendor used to ship orders to a warehouse vendor for distribution to the districts and schools. Vendors manually populated an Excel file with shipping quantities for each TDOE location. Our engineers, in conjunction with department staff, redeveloped this process to be much more efficient. Using order data entered directly by the schools, the system creates reports to allow the State to validate quantities. Only validated quantities reach the document vendor, resulting in lower purchase quantities and reduced waste. The system automatically generates warehouse vendor reports which validate quantities for a second time, and shift warehouse personnel focus off of data entry and onto successful logistics. This system allows the State to audit the end-to-end shipping process, determine missing quantities or shipments, and guarantee districts start testing procedures on schedule.

Order Entry Example

DISTRICT/SYSTEM: 00010 - ANDERSON COUNTY CHANGE
ASSESSMENT: 2010 FALL SECONDARY ASSESSMENTS (7-12) CHANGE

SHOW: All Schools | Only Schools with Orders | Only Applicable Schools

Currently Showing: **Applicable Schools** *(10 schools)*

Sch #	School Name	Grades	End of Course (EOC)	EOC / AYP	Gateway (Diploma Req.)
0003	ANDERSON CO CAREER TECHNICAL CENTER	10-12	NEW ORDER	NEW ORDER	NEW ORDER
0002	ANDERSON CO HS	9-12	Order #79459	Order #79461	Order #84370
0000	CENTRAL OFFICE	K-12	Order #79466	Order #79467	NEW ORDER
0025	CLINTON HS	9-12	Order #79462	Order #79463	NEW ORDER

Security & Compliance

Role-Based Access Control (RBAC)

This section addresses the following requirements:

- *A.5.(2).f.i.-iv: Role level security including State, District, School, and Teacher.*

The proposed RANDA security model has been developed and tested as part of the TDOE assessment technical services solution and will also provide the security layer for Memphis City Schools' new OPTES teacher/principal evaluation solution, for which RANDA recently won a competitive bid. The model provides flexibility on a permissions basis rather than limiting the user to rigid global role definitions. We can adapt this system to support standard and custom roles for the EWDS as we currently do for the Department of Assessment, Evaluation, & Research.

Security Basics

The RBAC system wraps dashboard views and data access in a secure layer based on business logic controlled by the State. This effort protects data at each step in the access and analysis processes. Data security starts with a structured user hierarchy. We have refined a single-sign on (SSO) strategy to handle the unique structure and process-driven security needs of education systems (we already manage usernames and passwords for most of the teachers and administrators in Tennessee). We understand that users fill different roles and that within those roles users need different permissions in order to access and interpret relevant data sets.

We address operating platform security through SSL with the ability to include Active Directory authentication via LDAP. Users at all levels will view only data specific to them unless granted permissions to do otherwise by users at more advanced control levels.

Standard Roles

Standard security roles include many different levels of user types. Our security model supports changes to user types for any user in the system, assuming administrative authorization. Each user type automatically adheres to data restrictions appropriate for that type by default. The RBAC security model uses top-down administrative functions such that each level of users can be enabled to determine exactly what level of access the next level of users can achieve. The amount of administrative power given to a set of users can be overridden by a user group with greater access privileges above them. Each user category consists of a collection of activities the users in it can or cannot do. The total available activities make up the complete permission set such that a top level user can perform all of the activities while a bottom level user can perform fewer of them.

Regionalization

Our proposed security implementation compartmentalizes and secures a wide range of user functions through a concept we call Regionalization.

Regionalization, and its associated management tools, allow administrators to organize any number of schools into a single defined region. These regions are then assigned to individual users or user roles, defining the scope of access for each. Any number of these regions may be created and assigned. State level administrators can modify regions — adding, editing or removing schools — at any time. Changes automatically cascade into the security and permission models.

This functionality allows administrators throughout the security architecture to define roles with a highly specified region of focus, assign that role to users, and later change the region as needed, for example, if LEA/District boundaries are changed. Similarly, a region can be defined for a specific user (e.g. a district administrator or learning consultant) and assigned just to that user. Any roles assigned thereafter would augment the user's regional accessibility.

Implementation

The RBAC system allows for great flexibility in access and modification of records. These security roles make it possible for principals and superintendents to view records within this specific security scope and to manage that scope for the users assigned to their care.

Auditing and Compliance

Transaction Auditing

RANDA's auditing systems will allow TDOE administrators to determine what system actions were taken, who issued the commands to take the actions, and when the actions took place. This functionality will prove important as indicator thresholds are tested and refined to avoid intervention false positives.

Education data systems depend heavily on transactions that not only read, but may also write sensitive data. That data is stored in tables which we rank based on their sensitivity. While the EWDS will not, at least in its early stages, feature data editing, the principles we discuss apply across automated data interfaces as well as individual users. Tables that contain critical data (base tables) have their transactions audited. During the audit process we save the following information for each operation:

- When an existing record is changed (updated)
- When a new record is created (inserted)
- When an existing record is removed (deleted)

For each of these actions, and many more, we record the user (or system process) ID that made the change and the timestamp of when the transaction took place. We also collect browser information, user data, login time, and IP address for every user that logs into the system.

Specific Activities are Logged for all Key Data Tables

The combination of the data we collect and the times the actions took place help us quickly reconstruct a series of events if there are questions, official inquiries, or grievance processing requests around a particular chain of events.

Compliance Tracking

Typical education institutions require compliance tracking at some or all of the following levels:

- Federal
- State
- District
- School
- Individual

Compliance tracking ensures processes and workflows are executed as required. Compliance isn't just about analyzing the audit trail for an event or transaction, but also about providing meaningful alerts and messages to guide users. Web alerts will trigger when:

- Leading indicator thresholds have been breached.
- Administrators have acted on a report or data view (to alert users to new data possibilities).
- Due dates are approaching or have been missed for critical actions (based on calendar functions).

All workflows and processing configurations will be gathered and refined during the project design phase. Flowcharts will clearly show the data approval and viewing processes from and between each role, ensuring all possible "what ifs" lead to valid event triggers and proper conclusions. RANDA's systems add a significant level of confidence around the approval process for accessible action-oriented data. This will prove vital as system alerts lead to real-life interventions with students.

RANDA's technical services TSC application manages claiming of students (including roster assignments) for TVAAS reporting and aligns data to meet Tennessee legal requirements. This specific experience qualifies RANDA to implement processes tied to legal or legislative ramifications, such as those required by the Early Warning Data System.

Technical System Architecture

Technical Specifications

6.2.6 Provide evidence that the Proposer is a Microsoft Certified Partner or a member of the Microsoft Partner Network.

This section addresses the following Pro Forma requirements:

- *A.4.a. The Contractor shall provide a system that is deployable to a Microsoft.NET Application Server on Windows Server 2008 hosted at the state data center running Secure Socket Layer (SSL) mode.*
- *A.4.b. The Contractor shall provide a data model that is deployable on MS-SQL Server 2008 R2 Enterprise Edition or higher as the database standard and hosted at the state data center.*
- *A.4.c. The Contractor shall provide a system that utilizes the Microsoft business intelligence and reporting tools.*

As a Microsoft Gold Certified Partner for over six years, RANDA utilizes the full suite of Microsoft development, hosting, and database technologies in virtualized environments that allow for rapid and efficient scaling.

- Web Server: Microsoft Windows Server 2008 R2
- Database: Microsoft SQL Server 2008 R2 Enterprise Edition (including Microsoft business intelligence and reporting tools)
- Development Environment: Microsoft Visual Studio 2010 using .NET 4.0

RANDA proposes hosting the application and data model during development, after which we will deploy the application to TDOE hosting facilities and transfer full control of the application as per the Pro Forma.

Technical Security

This section addresses the following Pro Forma requirements:

- *A.5.b.(2): Define a secure architecture to protect processing, storing, and reporting environments from network-based attacks.*
- *A.5.b.(3): Provide security procedures and safeguards to ensure that electronic files and data are developed, used, and maintained in a secure manner to protect the confidentiality of all personally identifiable information.*
- *A.5.b.(4): Utilize encryption to ensure security of all director/supervisor/school/system information entered through all online programs.*

All RANDA web-based solutions utilize industry standard SSL encryption for both login screens and application data entry and viewing screens throughout the application. No information is transacted between the end-user's browser and the server unless it is encrypted. If required we can utilize SQL Server Transparent Data Encryption (TDE) to perform real-time I/O encryption and decryption of the data and log files.

All developer workstations are protected by domain-based usernames and passwords that follow RANDA's secure password policies. All database information used for testing and development is "scrubbed" to remove personally identifiable information when real data is used for testing. All of RANDA's development systems are housed in our secure data center which utilizes access control and video surveillance. The facility is alarmed at all times and RANDA maintains dedicated security personnel on staff.

Proposed RANDA Services Deliverables

Section Contents

- **Project Management**
- **End User Technical Support**
- **Training**

Project Management

Agile Software Development

RANDA Project Managers adhere to the following principles and processes of agile software development and project management:

- Deliver and measure customer satisfaction by rapidly deploying useful software
- Embrace changes in requirements during any stage of development
- Deliver working software on an iterative weekly schedule
- Define progress measures based on working software milestones
- Encourage and enable direct connections and collaboration between subject matter experts and technical team members
- Communicate early and often with all stakeholders, preferably in face-to-face or video environments
- Trust subject matter experts and technical experts
- Reiterate the design cycle to flush out mistakes before they are implemented

Design, Construction, and Implementation Processes

RANDA's Education and Project Management teams will take an active role in collecting requirements in order to provide TDOE with informed design options for each iteration of the TN K-12 data model, supporting middleware logic, and EWDS. Our methodology embraces refining solutions in the field while including development, support, and training as essential elements in achieving TDOE goals. Our work with TDOE has consistently resulted in effective solutions with positive impacts on productivity and efficiency consistent with educational priorities.

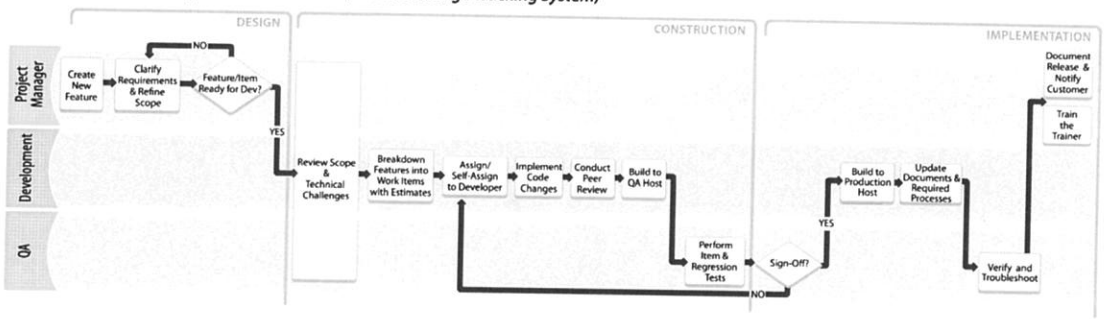
This section addresses the following requirements:

- *A.5.b: Administrative Activities: The Contractor shall provide all services from testing to implementation to carry out the scope of the contract.*
- *A.6. Project Modules. The Contractor shall provide the project manager, business analysts, database administrator and other resources to work with the State to design, configure, develop, and implement the data model...(1) Design Phase, (2) Construction Phase, (3) Implementation Phase.*

RANDA utilizes Agile Software Development methods based on iterative and incremental processes. In this environment, continuous collaboration among project stakeholders is mandatory for project success and superior results. The deployment of working software milestones is a primary measurement of progress, and our team effort is driven by frequent customer interaction during development cycles.

RANDA's Agile Software Development Process

Software Development Process *(OnTime Change Tracking System)*



The software construction process begins with the creation of functional specifications that meet the project requirements. RANDA then develops application code based on those specifications, designs test data and testing scenarios, and releases code into a testing environment. Interaction within and for the benefit of data model, middleware and EWDS development will occur via regular business and technical reviews based on qualitative user feedback, quantitative user analytics, and in-person user feedback collected during testing and acceptance sessions. The final product will be thoroughly tested before release. Once the State has signed off on a code release, we will update documentation and schedule a deployment according to the State's master schedule. We will then transition troubleshooting and technical support activities into our support process as documented in section *End User Help Desk Support*.

Development will be managed by a dedicated software Project Manager and Subject Matter Expert (SME). Through communication with TDOE via on-site meetings, online project tracking software, web conferences, and phone calls, the PM/SME will affirm that all information and requirements are fully verified, understood, and documented.

RANDA's PM/SME will manage Voice of the Customer (VOC) development activities by representing the interests of TDOE during all phases of the software development life cycle, including definition, analysis, and coordination of requirements. This liaison and his or her team will review iterative work in progress with TDOE leadership in order to capture expectations, preferences, and aversions, facilitating real-time project adjustments as required.

Acceptance Criteria

User Acceptance Testing (UAT) occurs during our software development process as we roll out feature sets through each iterative development cycle. Again, we use analytics and direct user feedback in order to provide TDOE administrators with informed options regarding how to address improvements and bug fixes. Extensive activity and transaction logging (see *Security and Compliance*) notifies us of any runtime errors so we can document the use case and make adjustments.

Project Planning

This section addresses the following requirements:

- *A.1.: The Contractor shall provide all service and deliverables as required, described, and detailed herein and shall meet all service and delivery timelines as specified by this Contract.*

Our project work plan will adhere directly to the timing of TDOE deliverables and development processes stipulated in the Pro Forma. Our agile methodologies support rapid changes in direction and requirements. We consider project management and customer service a priority and core competency as a custom software development company.

Annual Work Plan

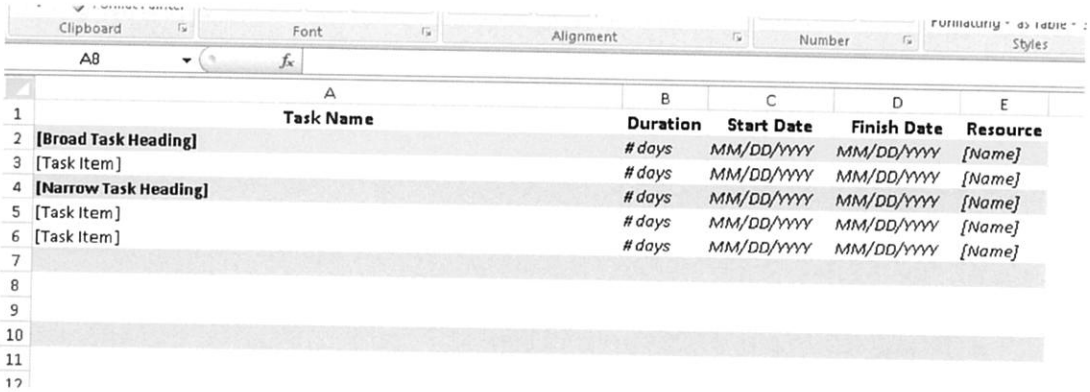
This section addresses the following requirements:

- *A.3. Annual Work Plan. The Contractor shall prepare, for State approval, a detailed Work Plan for each deliverable (A.5 - A.9) that incorporates the development of schedules for the activities of this contract. The Work Plan shall include the steps for all project work tasks and deliverables including initiation and completion dates, task responsibilities to avoid any disruption of services, requirements or deliverables to the State...*

RANDA will work with the State to prepare a detailed Annual Work Plan for each deliverable which will include:

- Scheduling and production steps for all tasks and deliverables related to the project
- Initiation and completion dates
- Task responsibilities
- Risk mitigation strategies to avoid any disruption of services
- Outlines of each activity to be performed under this contract
- Descriptions of activities related to each stage of development and implementation
- Due dates
- Areas of responsibility for both RANDA and State personnel
- Standardized security procedures for review and approval (see also section *Technical System Architecture*)
- Clear accountability statements related to security maintenance and any potential security breaches

We agree that the Annual Work Plan will serve as a monitoring document for the State to verify completion of project tasks. We will submit the initial Annual Work Plan to the State within thirty (30) days of the execution of the contract. We will submit subsequent Annual Work Plans no later than June 1 prior to the effective fiscal year. Unless otherwise specified by the State, we will utilize the following Work Plan format sourced from our current TDOE contract's reporting documents.



	A	B	C	D	E
1	**Task Name**	**Duration**	**Start Date**	**Finish Date**	**Resource**
2	**[Broad Task Heading]**	*# days*	*MM/DD/YYYY*	*MM/DD/YYYY*	*[Name]*
3	[Task Item]	*# days*	*MM/DD/YYYY*	*MM/DD/YYYY*	*[Name]*
4	**[Narrow Task Heading]**	*# days*	*MM/DD/YYYY*	*MM/DD/YYYY*	*[Name]*
5	[Task Item]	*# days*	*MM/DD/YYYY*	*MM/DD/YYYY*	*[Name]*
6	[Task Item]	*# days*	*MM/DD/YYYY*	*MM/DD/YYYY*	*[Name]*
7					
8					
9					
10					
11					
12					

Operations Management Activities

This section addresses the following requirements:

- *A.5.d.(1)-(6): Project Team ... Continuity of Contracts ...*

A single point of contact will be assigned by RANDA as the Project Manager. This person will be available to manage all inquires related to the project. All RANDA personnel assigned to the project team will have technical experience, knowledge and operational experience in managing and/or coordinating the development and implementation of large web-based applications and databases, oral and written communication, and managing large scale data integration systems. We have attached a resume packet at the end of our proposal featuring key personnel.

No key members of the project team will be removed or reassigned without prior written approval of the State. In the event a team member leaves the project for reasons out of our control, RANDA will provide a qualified replacement for approval by the State. We will maintain this project team throughout the life of the contract, and work with the State for a smooth transition once the contract is completed.

Project Meetings and Reporting

This section addresses the following requirements:

- *A.5.d.(7).i: Provide for a minimum of one monthly management meeting between the Contractor and State staff. These management meetings shall include review of the Work Plan and provide an opportunity to discuss task implementation and status.*
- *A.5.d.(7).ii: Produce quarterly progress reports with relevant tasks and activities from the schedule and progress noted for each. Progress reports shall include a report of activities completed during the prior quarter. The reports shall provide a list of significant operational problems needing corrective action...*
- *A.5.d.(7).iii: Records and Minutes: The Contractor shall take minutes and record lists of participants, for all meetings. All minutes, records and lists of participants shall be provided by the Contractor to the State for review and approval after each meeting...*

In collaboration with the TDOE lead project manager, RANDA's project manager will conduct weekly and monthly meetings and conference calls as required and whenever circumstances dictate. Per Agile Development practices at RANDA, software progress will be reviewed at least on a monthly basis in order for TDOE to measure project status and success metrics.

RANDA will schedule at least one monthly management meeting with the State project staff to review the Work Plan and discuss task implementation and status. We will produce quarterly progress reports, including a list of tasks completed and scheduling of current and future tasks. In the event of significant operational problems needing corrective action, we will address the following areas in these reports for each problem:

- Identify the problem
- Assign responsibility for taking corrective action
- Evaluate the importance of the problem

- Investigate possible causes of the problem
- Analyze the problem
- Recommend actions to prevent recurrence of this or similar problems
- Implement new process controls as necessary
- Determine what to do with the failed items
- Record permanent changes in process documentation

Each quarterly report will also contain a summary of questions or complaints, discussion of issues or problems raised by the State, a discussion of ongoing problems, details about invoices submitted and paid, and an executive summary that describes any major problems with recommendations on actions to be taken to solve those problems. We will report any unanticipated issues or problems as they occur. All reports will be submitted in a format and layout approved by the State.

RANDA personnel will take minutes, including a list of participants for all meetings and provide the minutes to the State for review and approval after each meeting, in an approved style and format. All contact information for the participants of each meeting will be reviewed by RANDA personnel and any changes will be updated with the State.

New Software Releases

This section addresses the following requirements:

- *A.5.d.(7).iv: New Software Releases – New software versions will not be released to State end users until tested and approved by the State. The contractor shall provide the proposed software release to the State for acceptance/regression testing...*

New software versions will not be released to State end users until tested and approved by the State. RANDA will provide the proposed software release to the State for acceptance/regression testing and support any testing as required by the State. We will only release production code to State users upon TDOE's written authorization.

Quality Control

This section addresses the following requirements:

- *A.5.c. Quality Control.(1).i-vii: Quality Control: The Contractor shall provide detailed, standardized, quality control procedures for review and approval by the State. Approved quality control procedures shall be included in the work plan.*
- *A.6.a.(3).i-iv Implementation Phase*

RANDA will include in the Annual Work Plan detailed, standardized quality control procedures for review and approval by the State. Quality control measures will address, at a minimum, the following:

- Errors in work products arising from RANDA's activities including print errors and program functions.
    - Resolution of such errors will include analysis to identify the cause and extent of the errors; editing, revision or reprogramming of the erroneous code and reprinting or

reproducing the erroneous products or materials; replacing or correcting data files; or reproducing erroneous reports.
    - All corrections will be reviewed, tested and approved by the State as necessary.
- Construction will begin with TDOE's functional specifications, definitions and requirements.
    - Once the code has been written to meet these specifications, RANDA will test the system in an environment that includes test data and testing scenarios that mimic, as closely as possible, real-world situations.
    - RANDA will then gather reactions, feedback and raw data from the testing and modify the code to fix any problems uncovered during testing and to make any changes that may be requested by end-users, pending TDOE approval.
    - This process continues until user acceptance testing signoff is complete as demonstrated in the software process diagram above.
- After the new code is deployed to the production environment, RANDA will monitor usage and activity and assist with troubleshooting any performance related issues in the field via our support process (see section *End User Help Desk Support*).
    - Adhering to our Agile Software Development approach, RANDA will fix any bugs and make changes to enhance the product, as requested by the State.
    - In addition, RANDA will continue to monitor software usage in the school, LEA and State environments.

End User Technical Support

This section addresses the following Pro Forma requirements:

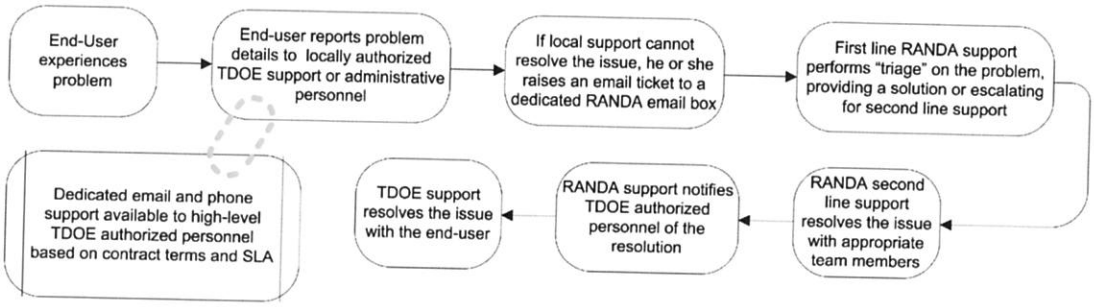
- *A.8. The Contractor shall provide a summary of the software support process for the proposed system, describing the telephone support, online support and if the support is available during normal business hours upon implementation of the system.*

Effective use of new software and interfaces requires time and practice. As a solutions developer, it is our responsibility to ease the transition into a new platform for the end-users. Our systems include inline help system which guide users on how to get the most out of the application when immediate in-person training is not available.

When problems are encountered that require personal attention, RANDA will offer email help desk and telephone support to key LEA and State personnel during normal business hours, 7 am - 5 pm, CST, Monday through Friday for the duration of the contract. This is the same support process already in place for our current TDOE technical services contract.

TDOE/RANDA End-User Support

Replicates the support model successfully in use for the RANDA's current TDOE contract



Training

This section addresses the following Pro Forma requirements:

- *A.7: The Contractor shall provide a User's Guide in electronic format for use during state provided training to districts.*

Our software solutions come with complete training guides and help files. We will deliver user guides in any standard electronic format required by the State.

Train-the-Trainer Methodology

All of our training and support strategies are designed to enable effective train-the-trainer efforts. We regularly conduct classes, webinars and seminars for our clients. Our training manuals will be informed by our education and technical teams who have logged more than 800 hours of support calls, discovery meetings, end-user focus group and in-person training sessions in the past six months.

We will effectively weave our training materials and contributions into TDOE's training efforts and will support those efforts immediately upon project launch. We will also contribute to TDOE technical administrator training in order to effect a smooth, well-documented transition that allows all TDOE-hosted solution components to be maintained and updated by State personnel after development has been completed.

Service and Delivery Timelines

This section addresses the following Pro Forma requirements:

- *A.1.: The Contractor shall provide all service and deliverables as required, described, and detailed herein and shall meet all service and delivery timelines as specified by this Contract.*

Pursuant to section B.1. of the Pro Forma contract, RANDA confirms we will adhere to the contract period beginning July 1, 2011, and ending on June 30, 2014, subject to term extensions based on Pro Forma contract section B.2.

We confirm our commitment to provide all service and deliverables as required, described, and detailed in the RFP and we shall meet all service and delivery timelines as specified by the RFP.

6.2.1. Primary Proposal Contact

6.2.1 Detail the name, e-mail address, mailing address, telephone number, and facsimile number of the person the State should contact regarding the proposal.

Marty Reed, CEO
Marty.Reed@randasolutions.com

722 Rundle Ave.
Nashville, TN 37210
Telephone: 615.467.6387
Facsimile: 615.613.0517

6.2.2. Statement of Certifications and Assurances

6.2.2. Provide the RFP Attachment 6.1., Proposal Statement of Certifications and Assurances completed and signed by an individual empowered to bind the Proposer to the provisions of this RFP and any resulting contract. The document must be signed without exception or qualification.

This document is included on the following page.

PROPOSAL STATEMENT OF CERTIFICATIONS AND ASSURANCES

An individual legally empowered to contractually bind the Proposer must sign and complete the *Proposal Statement of Certifications and Assurances* below as required, and this signed statement must be included with the proposal as required by the RFP Attachment 6.2.

The Proposer does, hereby, expressly affirm, declare, confirm, certify, and assure ALL of the following:

1. The Proposer will comply with all of the provisions and requirements of the RFP.
2. The Proposer will provide, for the total contract period, all services defined in the Scope of Services specified by the *Pro Forma Contract* attached to the RFP.
3. The Proposer accepts and agrees, without qualification, to all terms and conditions set out by the *Pro Forma Contract* attached to the RFP.
4. The Proposer acknowledges and agrees that a contract resulting from the RFP shall incorporate, by reference, all proposal responses as a part of the contract.
5. The Proposer will comply, as applicable, with:
   (a) the laws of the State of Tennessee;
   (b) Title VI of the federal Civil Rights Act of 1964;
   (c) Title IX of the federal Education Amendments Act of 1972;
   (d) the Equal Employment Opportunity Act and the regulations issued there under by the federal government; and,
   (e) the Americans with Disabilities Act of 1990 and the regulations issued there under by the federal government.
6. To the knowledge of the undersigned, the information detailed within the proposal submitted in response to the RFP is accurate.
7. The proposal submitted in response to the RFP was independently prepared, without collusion, under penalty of perjury.
8. No amount shall be paid directly or indirectly to an employee or official of the State of Tennessee as wages, compensation, or gifts in exchange for acting as an officer, agent, employee, subcontractor, or consultant to the Proposer in connection with the RFP or any resulting contract.

By signature below, the signatory certifies legal authority to bind the proposing entity to the provisions of this RFP and any contract awarded pursuant to it. The State may, at its sole discretion and at any time, require evidence documenting the signatory's authority to legally bind the proposing entity.

PROPOSER SIGNATURE & DATE: [signature] 6/1/2011

PRINTED NAME & TITLE: MARTY REED, PRESIDENT

PROPOSER LEGAL ENTITY NAME: R & A Solutions, Inc.

PROPOSER FEIN or SSN: 20-0388714

6.2.3. No Conflict of Interest

6.2.3. Provide a statement, based upon reasonable inquiry, of whether the Proposer or any individual who shall perform work under the contract has a possible conflict of interest (e.g., employment by the State of Tennessee) and, if so, the nature of that conflict. Any questions of conflict of interest shall be solely within the discretion of the State, and the State reserves the right to reject any proposal or cancel any award.

Neither the company, RANDA Solutions, nor any of its employees have any conflict of interest with regards to performing work under this proposed contract.

6.2.4. No Felony Convictions

6.2.4. Provide a statement of whether the Proposer or, to the Proposer's knowledge, any of the Proposer's employees, agents, independent contractors, or subcontractors, proposed to provide work on a contract pursuant to this RFP, have been convicted of, pled guilty to, or pled nolo contendere to any felony. If so, include an explanation providing relevant details. Any issues relating to such a matter shall be solely within the discretion of the State, and the State reserves the right to reject any proposal or cancel any award.

To our knowledge, no RANDA employees, agents, independent contractors, or subcontractors, proposed to provide work on a contract pursuant to this RFP, have been convicted of, pled guilty to, or pled nolo contendere to any felony.

6.2.5. No Material Pending Litigation

6.2.5. Provide a statement of whether there is any material, pending litigation against the Proposer that the Proposer should reasonably believe could adversely affect its ability to meet contract requirements pursuant to this RFP or is likely to have a material adverse effect on the Proposer's financial condition. If such exists, list each separately, explain the relevant details, and attach the opinion of counsel addressing whether and to what extent it would impair the Proposer's performance in a contract pursuant to this RFP. Any issues relating to such a matter shall be solely within the discretion of the State, and the State reserves the right to reject any proposal or cancel any award. All persons, agencies, firms, or other entities that provide legal opinions regarding the Proposer must be properly licensed to render such opinions. The State may require the Proposer to submit proof of such licensure detailing the state of licensure and licensure number for each person or entity that renders such opinions.

There is no pending litigation against RANDA Solutions.

6.2.6. Evidence of Microsoft Certified Partnership

6.2.6 (via AMENDMENT # 1) Provide evidence that the Proposer is a Microsoft Certified Partner or a member of the Microsoft Partner Network.

RANDA Solutions is a Microsoft Certified Gold Partner. Our Organization ID is 1317023 and our solution partner page can be found at http://tinyurl.com/randa-ms-partner.

Personnel Roster

- Berger, Dr. Rod
- Dill, Brian
- Dover, Dallas
- Engle, Adam
- Fortuna, Dr. Armando
- McFarren, Mike
- Person, Tony
- Ramirez, Karla
- Robison, Dave
- Tindall, Damon

722 RUNDLE AVE NASHVILLE TN 37210 RANDASOLUTIONS.COM
TN License # 1360 O 615 467 6387 F 615 613 0517

Rod Berger, Psy.D
Doctor of Clinical Psychology

Professional Experience

RANDA SOLUTIONS – NASHVILLE, TN
• VP of Education (2009 – Present)
Provides RANDA direction in training educators, administrators, students and families to use RANDA's technology tools. He has worked within the education, health care and technology sectors providing guidance for leadership and professional development, curriculum re-engineering and deployment. He also serves as an adjunct faculty member for Argosy University teaching courses in Personality Theory and Forensic Psychology. For the past three years, Dr. Berger has taught Leadership Development for Vanderbilt University's Owen Graduate School of Management. Additionally, has worked for major medical centers including King Drew Hospital in Los Angeles, California and Vanderbilt University Medical Center. A published author, national speaker and former national radio show host, he received his undergraduate degree in psychology from Michigan State University and his Masters and Doctorate in Clinical Psychology from Phillips Graduate Institute. Dr. Berger serves on the board of advisors for Early Life Child & Psychological Services, Inc. in Utah

RCB3 GROUP, LLC – NASHVILLE, TN
• Managing Partner
• Consultant, Leadership Coach, Speaker, Media Personality (2008 – 2009)

ALOC GROUP – NASHVILLE, TN 2007 - 2009
• Senior Consultant

NATIONAL SPEAKER'S BUREAU: NATIONAL CENTER FOR YOUTH ISSUES
• Public Speaker, United States (2007 – Present)

VANDERBILT UNIVERSITY MEDICAL CENTER,
DIVISION OF COMMUNITY PSYCHIATRY NASHVILLE, TN 2007 - 2008
• Clinical Therapist Community Mental Health Center

THE GUIDANCE CENTER – MURFREESBORO, TN (APA Accredited) 2006 -2007
• Pre-Doctoral Paid Internship

SAFE SCHOOLS HEALTHY STUDENTS – FRANKLIN SPECIAL & WILLIAMSON COUNTY SCHOOL DISTRICTS, TN 2006 -2007
• Pre-Doctoral Paid Internship

PAGE PRIVATE SCHOOL – BEVERLY HILLS, CA
• Assistant Principal (2001- 2003)

• Administrator (2001- 2003)

• Summer School Director

• Student Advisor (2001 - 2003)

• Teacher (2001 - 2003)

AMERICA'S PRIDE: NATIONAL DRUG PREVENTION ORGANIZATION – ATLANTA, GA
• National Trainer, Speaker (1995 -1998)

STABLE LIFE YOUTH CENTER, – NASHVILLE, TN
• Assistant Director (1996)

W. Brian Dill

Net Developer / DBA / Architect

Brian is a high level IT professional with demonstrated project experience from start to finish. Repeatedly deliver products to add to the business' bottom line by increasing revenue or cutting cost. He is a quick learner with a breadth of IT knowledge and a focus on Microsoft technologies. He is a pragmatic, self-motivated problem solver with an M.O. of automation and efficiency.

Education

B.A. Economics / Philosophy

Mississippi State University

M.A. Economics

University of Alabama

Professional Experience

RANDA SOLUTIONS – NASHVILLE, TENNESSEE – 2009 to Present

- Net Developer / DBA / Architect

COMPUWARE (FILEDBY. COM) / FILEDBY.COM – Jan 2009 to April 2009

- Programmer / DBA, Engineering / Industry: Consulting

COMPUWARE (DELOITTE) – Aug 2008 to Dec 2008

- Consultant / Industry: Consulting

NATIONAL RENAL ALLIANCE – Aug. 2007 to July 2008

- Sr. Systems Architect / Developer / DBA / Industry: Healthcare

REALTRACS – April 2003 – Aug. 2007

- Sr. Programmer / DBA / Industry: Real Estate

SOLUTECH / QUILOGY – June 1998 - April 2003

- Consultant – Sr. Consultant / Industry: Consulting

PENCO – Nov. 1996 – June 1998

- Sr. Systems Coordinator / Industry: Insurance

Dallas A. Dover

Energetic product manager and engineering professional that enjoys all aspects of the design life cycle from requirements gathering to customer satisfaction and related technical processes. Comprehensive experience in leading and executing new product and service offerings, design engineering, change management, organization development, quality and performance improvement and customer interaction.

Education

B.S., Electrical Engineering (with honors) 1995 to 1999
University of Tennessee – Knoxville, TN

Professional Experience

RANDA SOLUTIONS – NASHVILLE, TN 2011 to Present
- Project Manager

ENVIRONMENTAL SYSTEMS CORPORATION – KNOXVILLE, TN 1996 to 2011
- Manager, Software Development (June 2008-Jan. 2011)
- Technical Manager, Operations (July 2006-June 2008)
- Sr. Project Manager – Electrical/Control Projects (January 2005-July 2006)
- Project Engineer – Embedded Systems/Controls Engineering (June 1999-January 2005)
- Engineering Assistant (August 1996-June 1999)

Specialties

Operations, Program and Project Management
Agile process methodologies (Scrum and XP with Continuous Integration)
Leadership and employee mentoring in traditional and matrix style organizations
Strong communications, public speaking and presentation experience
Ability to bridge the gap between business managers and technical staff
Product requirements gathering and user experience design
Process analysis, improvement and automation
Budget development, financial analysis and performance tracking
Design engineering for new hardware and software products and supporting services
SQL database and report development

Adam U. Engle

Drive process reengineering management and staffing for all revenue-producing activities and support functions. Establish and manage market-facing strategic partnerships. Advise the management team on key planning issues and make recommendations on important business decisions in the following areas:

- Strategic planning and resource allocation
- Operational processes/ process improvement
- Quality control of all company output as pertains to customer acquisition and delivery of services
- Communications to management and staff
- Performance goals and reporting systems
- Quality management, legal stipulations, and general duty of care.
- Facilitation and resolution of issues between departments
- Crisis management

Education

Masters of Business Administration (MBA)

University of Tennessee – Knoxville, TN – 2003

Bachelor of Science Electrical Engineering

University of Tennessee – Knoxville, TN – 1999

Professional Experience

RANDA SOLUTIONS – NASHVILLE, TENNESSEE – 2010 to Present

Chief Operations Officer

ENVIRONMENTAL SYSTEMS CORPORATION – KNOXVILLE, TN - 1998 to 2010

- Vice President, Engineering/ Regulatory Services -2008 to 2011
- Director, Operations – 2005 to 2008
- Manager, Environmental Projects – April 2005 to September 2005
- Manager, Engineering Services – February 2003 to April 2005
- Project Manager – May 1999 to February 2003
- Engineer Assistant – May 1998 to May 1999

Armando de Oliveira Fortuna, Ph.D.

APPLICATION DEVELOPER

September 2008-Present

Team member responsible for working on the State of Tennessee/Department of Education project. Application development for Web, Windows and Mobile Device environments, including the TOWER System for iPad and Android.

Education

Doctor Computer Science, University of Manchester, 1996 – Manchester United Kingdom

Master of Computer Science, Universidade Estadual de Campinas, 1992 - Campinas, SP, Brazil

Bachelor Physics, Universidade Federal do Rio de Janeiro (UFRJ), 1988 - Rio de Janeiro, RJ, Brazil

Professional Work History

SENIOR SYSTEMS ANALYST, SANSOFT, INC. - FRANKLIN, TENNESSEE

June 2001-September 2008

PROFESSOR OF COMPUTER SCIENCE, UNIVERSIDADE DE SAO PAULO (USP)

- SAO CARLOS, SP BRAZIL

June 1996 to May 2001

Other Work Experience

- Developed business and scientific applications in various computer languages, including C++, Cobol, Fortran, VB, VB.NET, Assembly, and Pascal
- Wrote the mgsor program for the teaching of the multigrid
- System administrator and customer support to Linux and Windows users in an academic environment
- Implemented scientific computing applications, including ones for multicomputers
- MS SQL Server and MS Access experience designing, maintaining and programming database-enabled applications in VB, VB.NET, VBA, VC++ and C#

Michael J. McFarren

APPLICATION DEVELOPER, RANDA SOLUTIONS, INC. - NASHVILLE, TN Sep 2008 – Present

- Responsible for designing and developing rich web-client applications, leveraging state-of-the-art technologies. Working in a team environment for a contract for the State of TN, Department of Education, was able to deliver a new online management system in 3 weeks that took the prior vendor 3 months

Education

B.S. Computer Science/B.A. Mathematics (Magna Cum Laude) 1997
Texas Lutheran University

A.A.S. Computer Science Technology 1995
Community College Of The Air Force

Professional Work History

GENE BURTON & ASSOCIATES - FRANKLIN, TENNESSEE May 2003 – Aug 2008

- Application Developer/Analyst

PURESAFETY - NASHVILLE, TENNESSEE June 2000-May 2003

- Internet Application Developer

KIDS SPORTS NETWORK - SAN ANTONIO, TEXAS January 2000 – March 2003

- Application/Database Developer (Consultant)

ARROWWOOD CABINETRY - SAN ANTONIO, TEXAS June 1999 - March 2003

- Application Developer (Consultant)

MILITARY-UNITED STATES AIR FORCE 1991-2000

- Computer Systems Programmer / Analyst

Tony Person

106 Anchor Drive, Hendersonville, TN 37075
(615)-498-8478 • tony.person@me.com

Education

BFA Sculpture

Virginia Commonwealth University – Richmond, VA - 1992

Experience

STUDIOPERSON - NASHVILLE, TN 2008-2011

- Developer
- Manages web development of Agile client websites and wrote objective PHP 5 and PERL scripts in MVC template (codeigniter) with front-end scripts in jQuery (AJAX with JSON arrays) to MSQL back-end with UNIX servers and SVN. Lead and developed and internal iPhone application for iOS4.0 . Installed WordPress and updated plugins for clients as needed on AWS cloud servers. Used FlashCS4 for small ads in a coupon campaign for TeCoup client.

AUTOMATED LICENSING SYSTEMS - NASHVILLE, TN 2005-2008

- Lead Technical Developer

THE GIDEONS INTERNATIONAL NASHVILLE - NASHVILLE, TN 2002-2005

- Information Systems Web Manager

MEHARRY MEDICAL COLLEGE - NASHVILLE, TN 1998-2002

- Production Manager

Skills

- jQuery, PHP and most Open Source Technologies for fast and low cost development needs. I employ Microsoft Products like SQL and the .NET family of products, in particular, ASP and Visual Basic as well as Oralce and MySQL.

Karla Ramirez

Project Manager, IT Services

A networking professional with Microsoft, Novell, and A+ certifications, a strong work ethic, and 12+ years industry experience in management and consulting. In-depth knowledge and experience in areas of problem solving with a strong ability to adapt and learn quickly. A creative problem solver and an active team player with excellent organizational and time managerial skills. Expert in customer service relations and multi-tasking.

Education

Certifications	Microsoft Certified Systems Engineer (MCSE)
	Novell Certified Systems Engineer 5 (CNE)
	Microsoft Certified Trainer (MCT)
	Comp TIA A+
	Completed CCNA course

Professional Experience

CARNES GROUP – NASHVILLE, TN May 2006 to December 2008

- Senior Consultant

4 SERVICE – ENCINO, CA August 2003 to September 2005

- Network Engineer

BRAND CONSULTING GROUP – GLENDALE, CA

NORTH AMERICAN COMPUTER CONSULTANTS – GLENDALE, CA July 1998 to August 2005

- Network Engineer and Instructor

MT. SIERRA COLLEGE - PASADENA, CA March 1994 to July 1996

- Registrar and Computer Lab Assistant

David Robison

Application Developer, UI/UX Specialist

February 2011-Present

With almost a decade of experience in the educational technology industry, Dave applies an understanding of the expectations of education professionals to his extensive application development skills. His tenure at GlobalScholar and KUE Digital brought him in contact with the leadership of some of the industry's most tech-savvy school administrators, expanding his awareness of the unique challenges of today's educator and the innovations available to meet those challenges. His technical and industry experience is further enhanced by a designer's eye, adding an aesthetic appeal to his innovative development efforts.

Professional Work History

Director of Visual Media, GlobalScholar/KUE Digital – Bellevue, Washington

February 2002 – November 2010

Content Developer/Lead Trainer, National Seminars Group – Kansas City, MO

April 1998 to February 2002

Specialites

- ASP.NET application development
- UI/UX design and development
- MS SQL Server and MS Access experience designing, maintaining and programming database-enabled applications
- Graphic and media production
- Content and support systems development

Education

BFA, University of Wyoming, 1985 – Laramie, WY

Damon R. Tindall

Chief Information Officer

June 2009 – Present

• Responsible for strategic direction, budgeting, design, and Implementation of IT resources in an effort to support the company's business objectives

Education

BA Finance
Middle Tennessee State University - Murfreesboro, Tennessee August 1995

Professional Work History

REALTRACS SOLUTIONS - BRENTWOOD, TENNESSEE September 2000 – June 2009

• Chief Information Officer

HCA – NASHVILLE, TENNESSEE January 1998 – September 2000

• Senior Telecommunications Engineer

LDS iAmerica - SHREVEPORT, LOUISIANA December 1995 – January 1998

• Network Operations Center Manager

Technical Expertise

• Telephony: Metro Ethernet, OC12, DS3, T1, Broad Band Gateway, VoIP

• Hardware: Cisco Routers, Cisco Switches, Cisco Firewalls, Barracuda SPAM Firewalls, Foundry Switches, IBM Blades, Dell Servers, NetApp, Liebert, MGE , Cummings Generator

•Software: BGP, OSPF, Windows 2000, Windows 2003 and Windows 2008, Windows XP, Windows Vista, MSSQL 2000, MSSQL2005, VMware, ASP.Net v2.0, 3.0, and 3.5